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IS 11324 (1985): Multi-ply paper sacks for carbon black
[CHD 15: Paper and its products]



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IS : 11324 - 1985

Indian Standard
SPECIFICATION FOR
MULTY-PLY PAPER SACKS FOR
CARBON BLACK

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AMENDMENT NO. 2 MARCH 2006
TO
IS 11324 : 1985 SPECIFICATION FOR
MULTY-PLY PAPER SACKS FOR CARBON BLACK

[*Page 5, Table 1, Sl No. (iv)*] — Substitute the following for the existing matter:

iv) Tear factor	MD	100 <i>Min</i>	12.7 of IS 1060 (Part 1) : 1966
	CD	120 <i>Min</i>	

(CHD 15)

Reprography Unit, BIS, New Delhi, India

**AMENDMENT NO. 1 MARCH 1997
TO
IS 11324 : 1985 SPECIFICATION FOR MULTI-PLY
PAPER SACKS FOR CARBON BLACK**

(*Page 3, clause 0.2*) — Insert the following new clause after 0.2 and renumber the subsequent clause:

‘0.3 A scheme for labelling environment friendly products known as ECO Mark has been introduced at the instance of the Ministry of Environment and Forests (MEF), Government of India. The ECO Mark would be administered by the Bureau of Indian Standards (BIS) under the *BIS Act*, 1986 as per the Resolutions No. 71 dated 21 February 1991, and No. 425 dated 28 October 1992, published in the Gazette of the Government of India. For a product to be eligible for marking with ECO logo, it shall also carry the ISI Mark of BIS besides meeting additional environment friendly requirements. For this purpose, the Standard Mark of BIS would be a single mark being a combination of the ISI Mark and the ECO logo. Requirements to be satisfied for a product to qualify for the BIS Standard Mark for ECO friendliness, will be included in the relevant published Indian Standards through an Amendment. These requirements will be optional; manufacturing units will be free to opt for the ISI Mark alone also.

This Amendment is based on the Gazette Notification No. 364 dated 7 September 1995 for packaging material/package (Part I Paper Board and Plastics excluding Laminates) as environment friendly products published in the Gazette of India. This Amendment is, therefore, being issued to this standard to include environment friendly requirements for multi-ply paper sacks for carbon black.’

(*Page 6, clause 8.4*) — Insert the following new clauses after 8.4 and renumber the subsequent clauses:

‘9 ADDITIONAL REQUIREMENTS FOR ECO MARK

9.1 General Requirements

9.1.1 The product shall conform to the requirements for quality and performance prescribed under 3 to 8.

9.1.2 The paper and paper boards used for the manufacture of packaging materials/packages shall comply with the relevant Indian Standards.

Amend No. 1 to IS 11324 : 1985

9.1.3 The manufacturer shall produce to BIS, the environmental consent clearance from the concerned State Pollution Control Board as per the provisions of *Water (Prevention and Control of Pollution) Act, 1974* and *Air (Prevention and Control of Pollution) Act, 1981* along with the authorization, if required, under the *Environment (Protection) Act, 1986* and the Rules made thereunder, while applying for ECO Mark.

9.2 Specific Requirements

9.2.1 The material shall be of the following two types depending on the raw material used in the manufacture:

- a) *Type A* — Manufactured from pulp made from 100 percent waste paper or agricultural/industrial waste.
- b) *Type B* — Manufactured from pulp containing not less than 60 percent by mass of pulp made from materials other than bamboo, hardwood, softwood and reed.

NOTE — The manufacturer shall provide documentary evidence by way of certificate or declaration to this effect to BIS while applying for ECO mark for requirements under (a) and (b) above.

[*Page 6, clause 9.1.2 (renumbered as 10.1.2)*] — Insert the following new clauses after 10.1.2:

‘10.1.3 Additional Requirements for ECO Mark

10.1.3.1 Each sack may display in brief the criteria for which the product has been labelled as environment friendly.

10.1.3.2 It shall be suitably marked on each sack that ECO Mark label is applicable only to the packaging material/package if content is not separately covered under the ECO Mark scheme.

NOTE — It may be stated that the ECO Mark is applicable to the product or packaging material or both.

[*Page 7, clause 10.1 (renumbered as 11.1)*] — Insert the following new clause after 11.1:

‘11.2 The ECO marked packaging material/package may be sold along with instructions for proper use and mode of safe disposal so as to maximise its performance and minimise wastage.’

(CHD 16)

Reprography Unit, BIS, New Delhi, India

Indian Standard

SPECIFICATION FOR MULTY-PLY PAPER SACKS FOR CARBON BLACK

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IS : 11324 - 1985

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(Continued on page 8)

Indian Standard
**SPECIFICATION FOR
MULTY-PLY PAPER SACKS FOR
CARBON BLACK**

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 27 May 1985, after the draft finalized by the Paper and Flexible Packaging Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

0.2 A paper sack is the most commonly used medium for packaging of carbon black. The selection of the type of paper, manufacturing practices, and co-relation of the quality of the paper to the strength characteristics are of utmost importance in arriving at a sack to the satisfaction of the consumer industry. The various properties of kraft paper for use of the pack sacks has been laid down in Table 1. However, any other type of kraft paper meeting with the strength values as laid down in Table 1 may be used in the manufacture of paper sacks.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard lays down the requirements for materials, design and construction for non-returnable multi-ply paper sacks intended to hold 25 kg of carbon black in powder form.

2. TERMINOLOGY

2.1 For the purpose of this standard the definitions given in IS:9028-1978† shall apply.

*Rules for rounding off numerical values (*revised*).

†Glossary of terms relating to paper sacks.

3. DIMENSIONS

3.1 The width and length of the sack shall be as specified by the purchaser. The tolerance on the specified value shall be ± 6 mm.

4. MATERIAL

4.1 The sacks shall be made of sack kraft paper, extensible sack kraft or creped kraft paper.

4.2 Adhesive — Adhesive shall be borated starch or dextrin base type and shall be non fungi forming.

5. CONSTRUCTION

5.1 General — The sack shall comprise four or five well nested plies of kraft paper of 80 or 90 g/m² (substance).

5.2 Style — The sacks shall be of pasted valve, flat, hexagonal ends type or pasted valve, gusseted rectangular ends type as shown in Fig. 1A and 1B respectively. The valve may be fitted with an external tuck in sleeve, normally or crepe kraft paper of 90-100 g/cm².

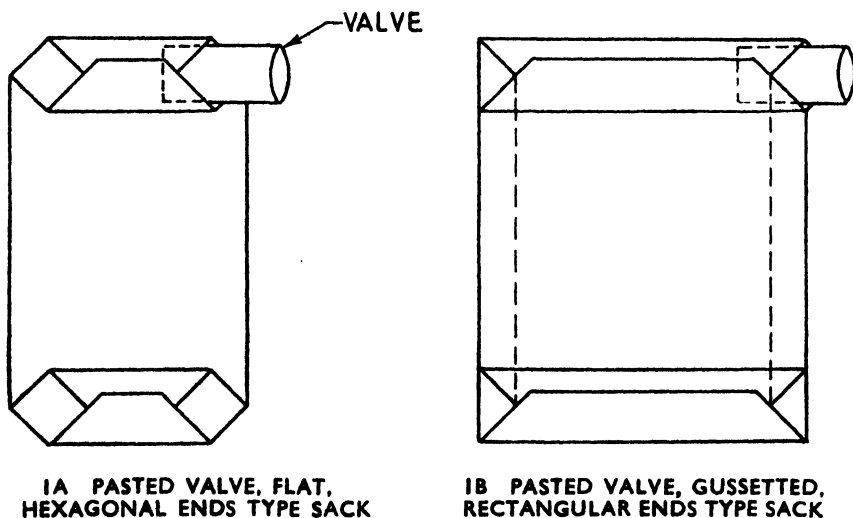


FIG. 1 SACK STYLE

5.3 Seams — The longitudinal seams shall be glued by a suitable adhesive as specified under 4.2.

6. KRAFT PAPER REQUIREMENTS

6.1 The various requirements of kraft paper shall be as given in Table 1.

TABLE 1 REQUIREMENTS FOR 80 g/m² SACK KRAFT PAPER

(Clauses 0.2, 6.1 and 6.1.1)

SL No.	REQUIREMENT	DIRECTION	VALUE	METHOD OF TEST, REF TO CLAUSE NO.
i)	Substance (g/m ²)	—	80±4	6.2 of IS: 1060 (Part 1)-1966*
ii)	Tensile strength (N/15 mm)	MD	75 <i>Min</i>	12.3 of IS: 1060 (Part 1)-1966*
		CD	50 <i>Min</i>	
iii)	Elongation (percent) at break	MD	2.5 <i>Min</i>	12.3 of IS: 1060 (Part 1)-1966*
		CD	4.5 <i>Min</i>	
iv)	Tear factor	MD	100 <i>Min</i>	12.7 of IS: 1060 (Part 1)-1966*
			120 <i>Min</i>	
v)	Porosity sec/100 cc (Gurley)	—	20 <i>Max</i>	Appendix A of IS: 3413-1977†

MD means machine direction, and

CD means cross direction.

*Methods of sampling and test for paper and allied products: Part 1 (revised).

†Base paper for carbon paper.

6.1.1 The values specified in Table 1 are for conventional type sack kraft paper. If extensible sack kraft paper is used, it is desirable to go for tensile energy absorption value of 137 and 68.5 J/m² in machine direction and cross direction respectively. The porosity value for extensible sack kraft remains the same as indicated in Table 1.

7. WORKMANSHIP

7.1 The plies shall be properly but not excessively creased. In the construction of a multiwall sack tube, the outer ply fit shall be such that at the point of manufacture each ply shall be smaller in circumference than the next outer ply within the elongation limits of the material in order to ensure even load distribution between the plies. Care shall be taken to ensure for adequate longitudinal overlap, equal gusset formation and spot gluing quantity and line of gluing.

8. SAMPLING AND TESTING

8.1 Sampling — Sampling shall be according to procedure laid down in IS: 10528-1983*.

8.2 Conditioning — The paper sack sample from the lot for testing shall be conditioned according to IS: 1060 (Part 1)-1966†.

8.3 Substance — The substance of sack kraft paper shall be within ± 5 percent of the specified nominal substance (grammage) when determined by the method described in 6.2 of IS: 1060 (Part 1)-1966‡.

8.4 Drop Test — The filled sacks after conditioning as required shall be subjected to sequential 6 drops, one each on front side, right side, back side, left side, bottom and top (*see* IS: 11052-1984§ for details). The drop height shall be 0.85 m for the first four drops and 0.3 m for drop on the bottom and top sides (filling side). The sack shall not show any bursting at the end of the drop test.

9. MARKING

9.1 The sacks shall be printed according to the international colour coding followed by the carbon black industry. A glossy paper strip may be pasted at the ends of the bag.

9.1.1 Each sack shall be marked with the following information printed on it:

- a) Relevant product details alongwith the name of the product manufacturer;
- b) Net mass of the contents; and
- c) 'Do not use hooks' [preferably showing the corresponding pictorial illustrations as per IS: 1260 (Part 2)-1979§].

9.1.2 The sacks may also be marked with the following information:

- a) 'Do not drop' [preferably showing the pictorial illustrations according to IS: 1260 (Part 2)-1979§];
- b) 'Do not drop on edges, corners and ends' [preferably showing the corresponding pictorial illustration as per IS: 1260 (Part 2)-1979§]; and

*Method of sampling empty paper sacks for testing.

†Method of sampling and test for paper and allied products: Part 1 (*revised*).

‡Methods of test for the vertical impact drop test on paper sacks.

§Specification for pictorial marking for handling and labelling of goods: Part 2 General goods (*second revision*).

- c) The sacks conforming to the requirements of this standard may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

10. PACKING

10.1 Paper sacks shall be bundled and suitably packed in waterproof material as agreed to between the purchaser and the supplier.

(Continued from page 2)

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